

Abstract of the Disclosure

5 The present invention provides a process for making an *in vivo* model of human leukemia. The process includes the steps of: pre-conditioning an immunodeficient rodent by administering to the rodent a sub-lethal dose of irradiation and injecting the rodent with an effective pre-conditioning amount of human fetal cord blood mononuclear cells; maintaining the rodent for from about 5 to 10 days; and injecting the rodent with an effective engrafting amount of primary human leukemia cells. An *in vivo* and *in vitro* model of human leukemia are also provided.